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EXAMINER	
MEEK, JACOB M	

ART UNIT	PAPER NUMBER
2637	

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/954,777	GREENBERG ET AL.	
	Examiner	Art Unit	
	Jacob Meek	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 38* is/are pending in the application.

4a) Of the above claim(s) *35 - 38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 25 - 34 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments filed 7/15/05 regarding claims 1 - 24 have been fully considered but they are not persuasive.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Viterbi,) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Examiner appreciates applicant's clarifications regarding claims 1- 24, and explanation of how art differs from disclosed invention. The thrust of the argument appears to be with respect to decoding operation, and what is being decoded. Examiner feels that Nooralahiyan does meet the requirements of the claims as set forth.

With regard to decoder, applicant's claims recite "decoder", which when given it broadest reasonable interpretation could be applied to any form of decoder. Nooralahiyan discloses multiple decoders in his system: DVBC, audio, and video decoders.

With regard to sharing, Nooralahiyan also discloses that his device is used in broadcast video applications (see abstract), which are understood to consist of multiple data streams, and would require Noorlahiyan's device to be shared amongst multiple data streams to provide functionality of decoding broadcast video and therefore appropriate.

With regard to data samples, Nooralahiyan discloses a replay method of replaying data samples (video and audio) that reads correctly on the limitation of data samples, as any data samples will suffice in meeting this limitation. Further, replay operation would restore downstream decoders to previous state when operated.

With regard to amended claim 11, and added limitation of context switching. Nooralahiyan still reads on this amended claim. Microsoft Press, Computer Dictionary, 3rd Edition defines context switch as:

> *n.* A type of multitasking; the act of turning the central processor's "attention" from one task to another, rather than allocating increments of time to each task in turn.

Based on this definition, Nooralahiyan's system does provide context switching by operating in both real time and replay modes where examiner interprets this changing between modes as a form of context switching as defined above.

4. Restatement of previous rejections of claims 1 – 24.

Claims 1 – 3, 11 – 13, and 17 – 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nooralahiyan et al (US Patent 6,775,463).

With regard to claim 1, Nooralahiyan teaches a method of decoding data samples from a data stream (see column 2, lines 47 – 49), storing data samples processed from data stream (see column 3, lines 8 – 20 where this is interpreted as equivalent functionality), and replaying data samples stored in said replay buffer to restore decoder to state it was in when it last decoded samples from data stream prior to processing new data samples (see column 3, lines 21 – 27 where this replay functionality is interpreted as equivalent). Nooralahiyan further teaches that his device monitors to determine selected data stream (see column 3, lines 47 – 51 which is interpreted as equivalent functionality).

With regard to claim 2, Nooralahiyan teaches a method of temporarily storing values in associated with 1st data stream in a buffer (see column 4, lines 1 - 9 where circular buffer is interpreted

as equivalent), and restoring values prior to replaying data samples stored in replay buffer (see column 4, lines 13 – 21 where this is interpreted as equivalent functionality).

With regard to claim 3, Nooralahiyan teaches a method of storing a number of values associated with a data stream (see column 4. lines 22 – 27 where this history loop is interpreted as containing N accumulator values).

With regard to claim 11, Nooralahiyan teaches a method of for decoder replay compromising decoding data samples from a data stream (see column 2, lines 47 – 49) decoder being in a 1st state after decoding 1st set of data (see column 3, lines 53 –56 where this is interpreted as equivalent functionality), temporarily storing 1st set of data in a buffer (see column 4, lines 1 – 5 where this is interpreted as equivalent), decoding other sets of data from one or more streams (see column 3, lines 47 – 51), restoring decoder to 1st state by re-decoding 1st set of data from buffer (see column 4, lines 13 – 21), decoding a second set of data from 1st data stream once decoder is restored to 1st state, decoder being in a 2nd state after decoding 2nd set of data (see column 5, lines 15 – 25, where this is interpreted as providing equivalent functionality).

With regard to claim 12, Nooralahiyan teaches a method of temporarily storing 2nd set of data in a buffer (see column 4, lines 1 - 9 where video packets are interpreted as equivalent), being usable to restore decoder to 2nd state after decoder has decoded additional data from data streams (see column 4, lines 13 – 21 where this is interpreted as equivalent functionality).

With regard to claim 13, Nooralahiyan teaches a method of storing a number of values associated with a data stream (see column 4. lines 22 – 27 where this history loop is interpreted as containing N accumulator values).

With regard to clams 17 – 19, the components claimed as apparatus is nothing more than a restatement of the embodiment of the steps claimed as method and therefore, it would have been obvious, considering the aforementioned rejection for the method claims of 1 – 3.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan ('463).

With regard to claim 20, Nooralahiyan teaches the number of accumulator values associated with a data stream are equal to the number of data samples (see column 4, lines 1 –21 where circular buffer is interpreted as equivalent functionality). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize Nooralahiyan's circular buffer to accumulate data samples in order to provide replay functionality.

Claims 4 – 8, 14, 15, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan ('463) in view of Haas et al (Advanced two IC chipset for DVB on satellite reception; Haas, M.; et al.; Consumer Electronics, IEEE Transactions on , Volume: 42 , Issue: 3 , Aug. 1996; Pages:341 – 345).

With regard to claim 4, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating an FEC decoder (see Figure 3, page 342). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a FEC decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 5, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see Figure 3, page 342 which is interpreted as a form of maximum likelihood decoding). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a maximum likelihood decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 6, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a convolutional decoder (see section 2.8, page 344, second paragraph where convolutional deinterleaving described is interpreted as equivalent). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a convolutional decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 7, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see section 2.5, page 344,). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a Viterbi decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 8, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see section 2.5, page 344) of various depths (see page 344, 1st paragraphs where rates are interpreted as various encoding depths). It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a Viterbi decoder of depth N to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 14 and 15, these methods are identical to those of claim 4 and 5 and therefore, it would have been obvious, considering the aforementioned rejection for the method claims of 4 and 5.

With regard to clams 21 and 22, the components claimed as apparatus is nothing more than a restatement of the embodiment of the steps claimed as method and therefore, it would have been obvious, considering the aforementioned rejection for the method claims of 7 and 6 (where convolutional decoder is interpreted as equivalent to Turbo code decoder).

Claims 9. 10, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan ('463) in view of Tawil et al (US Patent 6,690,926).

With regard to claim 9, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his TS-IN block. Tawil teaches a method for receiving multiple digital data streams from different satellites (see column 1, lines 51 – 56 and Figure 1, 21, 22). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize Tawil's invention in conjunction with Nooralahiyan's system to provide the enhanced feature of replay in a DVB system.

With regard to claim 10, Nooralahiyan teaches a method of decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his TS-IN block. Tawil teaches a method for receiving multiple digital data streams from different satellites (see column 1, lines 51 – 56 and Figure 1, 21, 22). Tawil also teaches his system would be operable with other types of carriers (see column 2, lines 1- 13 where this is interpreted as being inclusive of cable carriers). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize Tawil's invention in conjunction with Nooralahiyan's system to provide the enhanced feature of replay in a DVB system.

With regard to claim 16, this method is identical to those of claim 10 and therefore, it would have been obvious, considering the aforementioned rejection for the method claims of 10.

With regard to clam 23, the components claimed as apparatus is nothing more than a restatement of the embodiment of the steps claimed as method and therefore, it would have been obvious, considering the aforementioned rejection for the method claim of 9.

With regard to claim 24, Nooralahiyan teaches a system for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the use of additional decoders. Tawil teaches a system for decoding digital data streams with multiple decoders (see column 4, lines 50– 57 and Figure 1, 42, 45). It would have been obvious to one of ordinary skill in the art at the time of

invention to utilize Tawil's invention in conjunction with Nooralahiyan's system to provide a system usable for DVB applications, as multiple decoders are required for operation.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 25 recites the limitation "... in said plurality ..." in 2nd limitation. There is insufficient antecedent basis for this limitation in the claim.

Election/Restrictions

6. Newly submitted claims 35 – 38 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Original claims were drawn to a shared decoder method and apparatus. Newly added claim 35 is drawn to a replay method for a digital video receiver. This new claim is drawn to a separate class and subclass.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 35 – 38 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 25 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan et al (US Patent 6,775,463, previously cited).

With regard to claim 25, Nooralahiyan teaches a decoder for decoding data symbols (where decoded data stream is interpreted as digital symbols) from a data stream (see column 2, lines 47 – 49), a replay buffer for storing data symbols processed from data stream in a replay buffer before decoding data from other data symbols (see figure 1, REPLAY and column 3, lines 8 – 20 where this is interpreted as equivalent functionality), and replay logic to replay data symbols stored in said replay buffer to restore decoder to state decoder was in when it last decoded symbols from data stream prior to processing new data symbols (see column 3, lines 21 – 27 where this replay functionality is interpreted as equivalent). Nooralahiyan further teaches that his device monitors to determine selected data symbols (see column 3, lines 47 – 51 which is interpreted as equivalent functionality). Nooralahiyan is silent with respect to use of an IC in his receiver. Implementation of a receiver would require the use of IC's in order to provide required functionality and therefore would have been obvious to one of ordinary skill in the art at the time of invention.

With regard to claim 26, Nooralahiyan teaches storage logic for temporarily storing values associated with 1st data symbols in a buffer (see column 4, lines 1 - 9 where circular buffer is interpreted as equivalent), and restoration logic for restoring values prior to replaying

data symbols stored in replay buffer (see column 4, lines 13 – 21 where this is interpreted as equivalent functionality). Nooralahiyan is silent with respect to use of an IC in his receiver. Implementation of a receiver would require the use of IC's in order to provide required functionality and therefore would have been obvious to one of ordinary skill in the art at the time of invention.

With regard to claim 27, Nooralahiyan teaches storing a number of values associated with a data stream in a buffer (see column 4. lines 22 – 27 where this history loop is interpreted as containing N accumulator values). Nooralahiyan is silent with respect to use of an IC in his receiver. Implementation of a receiver would require the use of IC's in order to provide required functionality and therefore would have been obvious to one of ordinary skill in the art at the time of invention.

8. Claims 28 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan ('463) in view of Haas et al (previously cited) (Advanced two IC chipset for DVB on satellite reception; Haas, M.; et al.; Consumer Electronics, IEEE Transactions on , Volume: 42 , Issue: 3 , Aug. 1996; Pages:341 – 345).

With regard to claim 28, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating an FEC decoder (see Figure 3, page 342) implemented as an IC. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a FEC decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 29, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see Figure 3, page 342 which is interpreted as a form of maximum likelihood decoding) implemented as an IC. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a maximum likelihood decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 30, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a convolutional decoder (see section 2.8, page 344, second paragraph where convolutional deinterleaving described is interpreted as equivalent) as an IC. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a convolutional decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 31, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see section 2.5, page 344) as an IC. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a Viterbi decoder to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

With regard to claim 32, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his DVBC block. Haas teaches a DVB (Digital Video Broadcast) receiver incorporating a Viterbi decoder (see section 2.5, page 344) of various depths (see page 344, 1st paragraphs where rates are interpreted as various encoding depths)as an IC. It would have been obvious to one of ordinary skill in the art at the time of invention to incorporate a Viterbi decoder of depth N to decode the incoming data stream in order to produce a recovered signal, as this is an inherent feature of DVB systems.

9. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nooralahiyan ('463) in view of Tawil et al (US Patent 6,690,926).

With regard to claim 33, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his TS-IN block. Tawil teaches a method for receiving multiple digital data streams from different satellites (see column 1, lines 51 – 56 and Figure 1, 21, 22). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize Tawil's invention in conjunction with Nooralahiyan's system to provide the enhanced feature of replay in a DVB system.

With regard to claim 34, Nooralahiyan teaches a decoder for decoding a digital data stream (see column 2, lines 47 – 49). Nooralahiyan is silent with respect to the details of his TS-IN block. Tawil teaches a method for receiving multiple digital data streams from different satellites (see column 1, lines 51 – 56 and Figure 1, 21, 22). Tawil also teaches his system would be operable with other types of carriers (see column 2, lines 1- 13 where this is interpreted as being inclusive of cable carriers). It would have been obvious to one of

ordinary skill in the art at the time of invention to utilize Tawil's invention in conjunction with Nooralahiyan's system to provide the enhanced feature of replay in a DVB system.

Other Cited Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ho (US-6,622,307) discloses a receiver for the distribution of digital television programming.

Chitta (US-5,36,251) discloses a receiver utilizing a Viterbi decoder for digital television.

Kaewell, Jr. (US-6,404,828) discloses a multi-channel Viterbi decoder useful for wireless applications.

Scott et al (US-6320,627) discloses a demodulator for DVB signals.

Fukami (US 2001/0032027) discloses a receiver for reception of digital broadcasts with many aspects of applicant's claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Meek whose telephone number is (571)272-3013. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571)272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMM
10/18/05

TEMESGHEN GHEBRETINSAE
PRIMARY EXAMINER